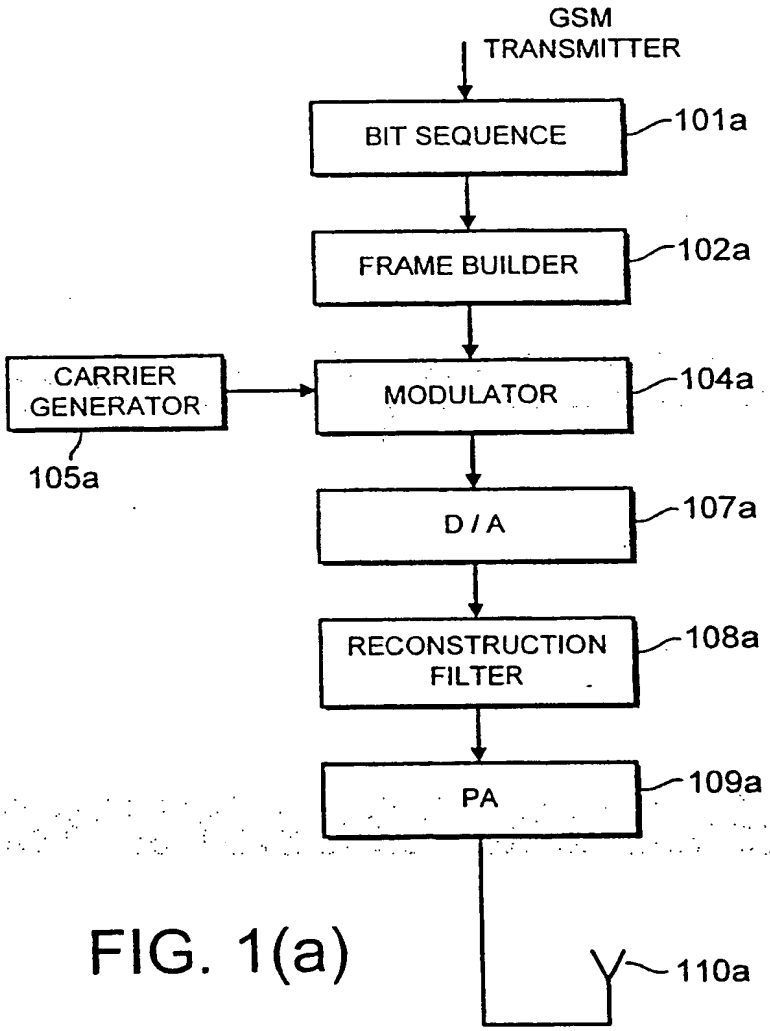

GSM
TRANSMITTER
BIT SEQUENCE
101a
FRAME BUILDER
102a
CARRIER
GENERATOR
105a
MODULATOR
104a
D / A
107a
RECONSTRUCTION
FILTER
108a
PA
109a
110a

FIG. 1(a)

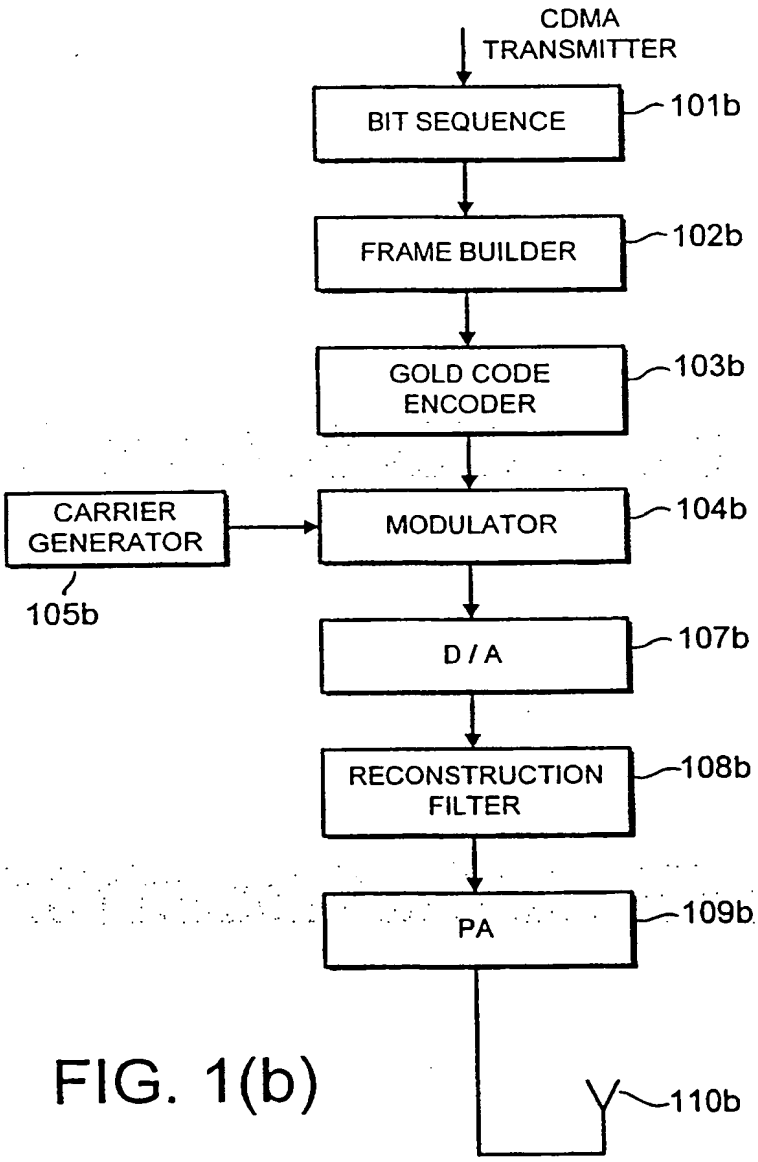

CDMA
TRANSMITTER
BIT SEQUENCE
101b
FRAME BUILDER
102b
GOLD CODE
ENCODER
103b
CARRIER
GENERATOR
105b
MODULATOR
104b
D / A
107b
RECONSTRUCTION
FILTER
108b
PA
109b
110b

FIG. 1(b)

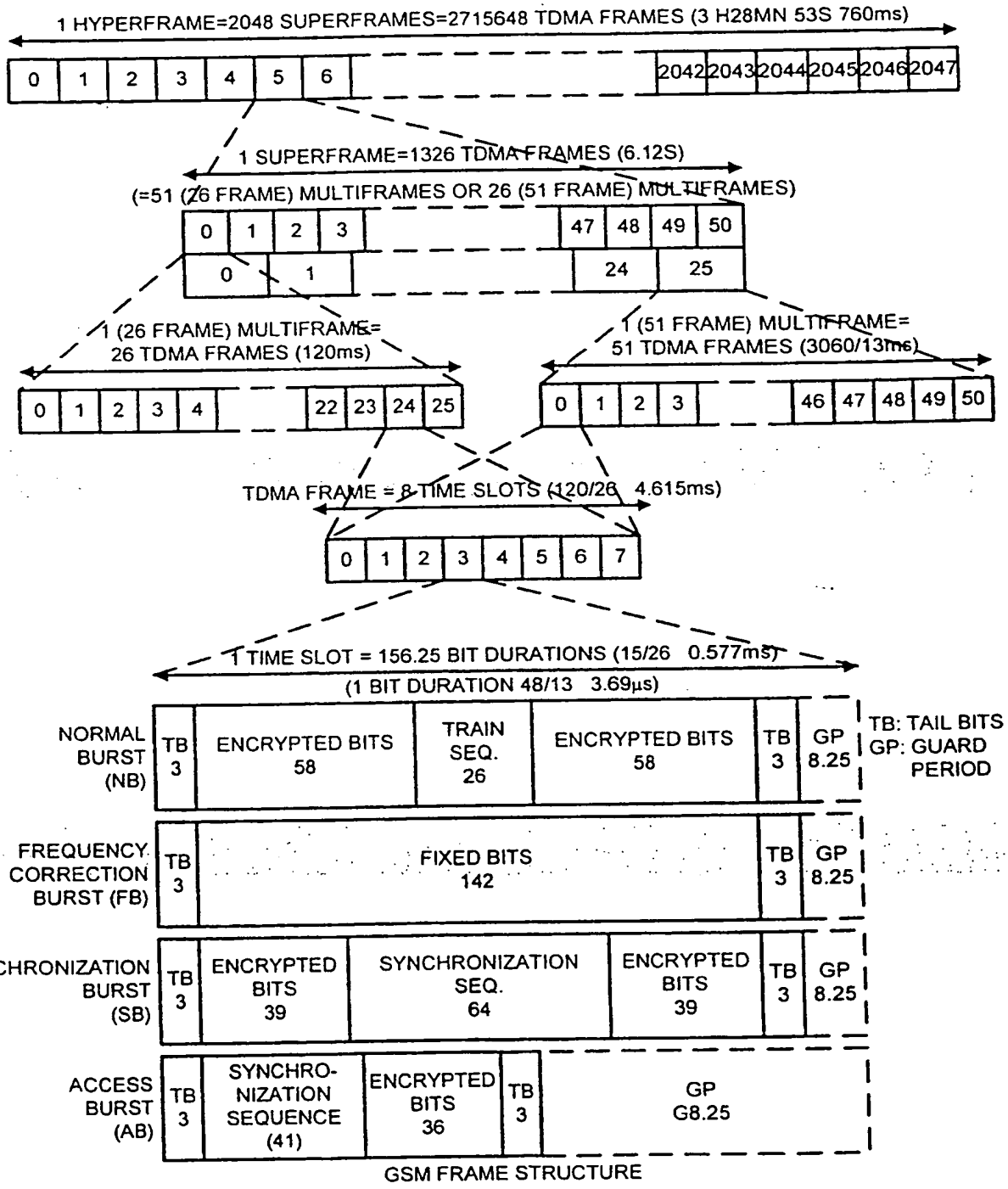

1 HYPERFRAME=2048 SUPERFRAMES=2715648 TDMA FRAMES (3 H28MN 53S 760ms)
0 1 2 3 4 5 6 2042 2043 2044 2045 2046 2047
1 SUPERFRAME=1326 TDMA FRAMES (6.12S)
(=51 (26 FRAME) MULTIFRAMES OR 26 (51 FRAME) MULTIFRAMES)
0 1 2 3 47 48 49 50
0 1 24 25
1 (26 FRAME) MULTIFRAME=
26 TDMA FRAMES (120ms)
0 1 2 3 4 22 23 24 25
1 (51 FRAME) MULTIFRAME=
51 TDMA FRAMES (3060/13ms)
0 1 2 3 46 47 48 49 50
TDMA FRAME = 8 TIME SLOTS (120/26 4.615ms)
0 1 2 3 4 5 6 7
1 TIME SLOT = 156.25 BIT DURATIONS (15/26 0.577mS)
(1 BIT DURATION 48/13 3.69μs)
NORMAL BURST (NB)
TB 3
ENCRYPTED BITS 58
TRAIN SEQ. 26
ENCRYPTED BITS 58
TB 3
GP 8.25
TB: TAIL BITS
GP: GUARD PERIOD
FREQUENCY CORRECTION BURST (FB)
TB 3
FIXED BITS 142
TB 3
GP 8.25
SYNCHRONIZATION BURST (SB)
TB 3
ENCRYPTED BITS 39
SYNCHRONIZATION SEQ. 64
ENCRYPTED BITS 39
TB 3
GP 8.25
ACCESS BURST (AB)
TB 3
SYNCHRO-NIZATION SEQUENCE (41)
ENCRYPTED BITS 36
TB 3
GP G8.25
GSM FRAME STRUCTURE

FIG. 1(c)

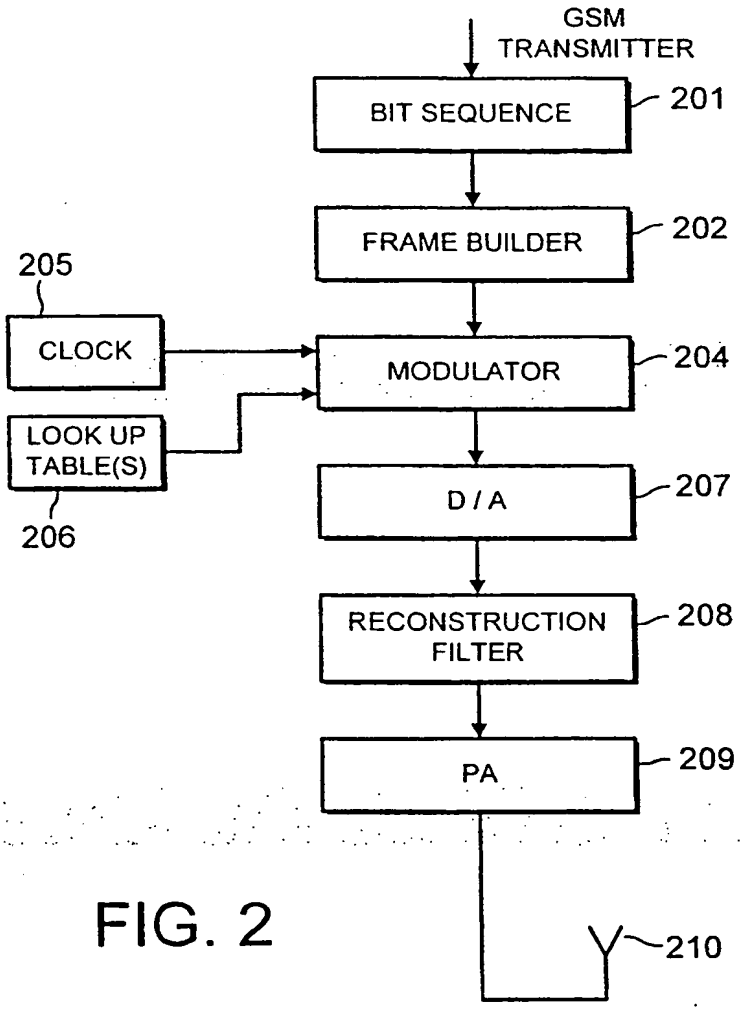

GSM
TRANSMITTER
BIT SEQUENCE
201
FRAME BUILDER
202
205
CLOCK
MODULATOR
204
LOOK UP
TABLE(S)
206
D / A
207
RECONSTRUCTION
FILTER
208
PA
209
210

FIG. 2

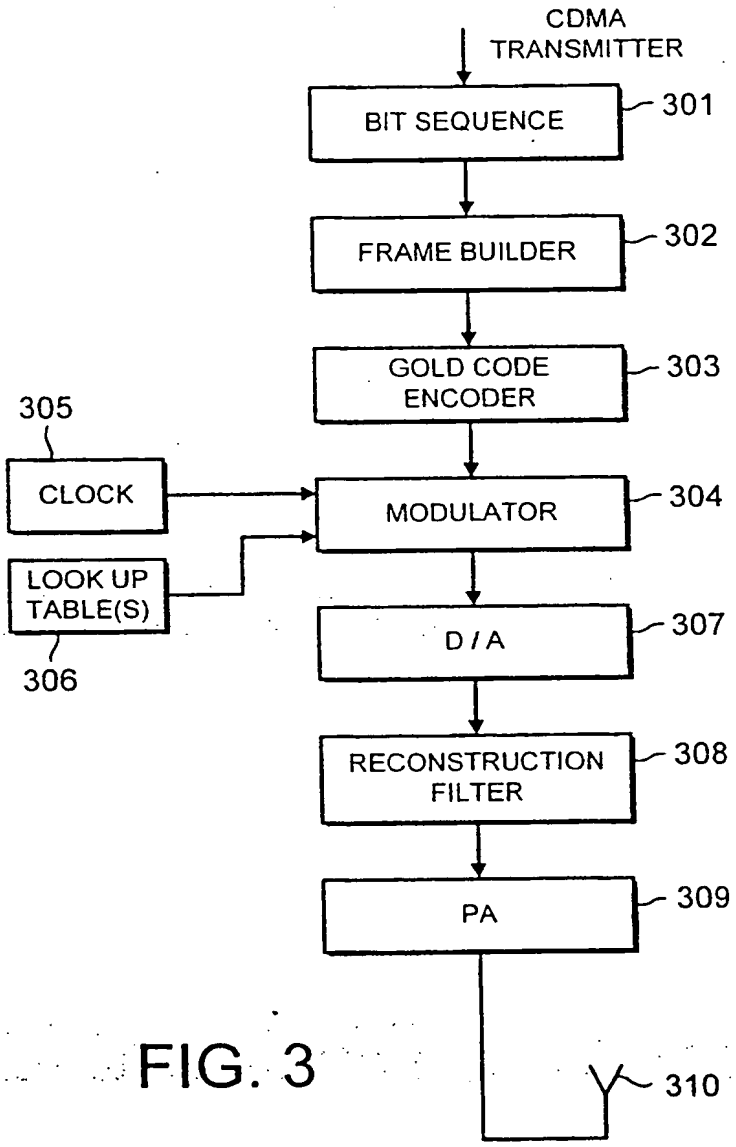


FIG. 3

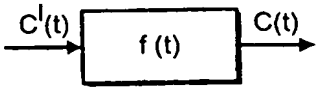


FIG. 4(a)

FIG. 4(b)

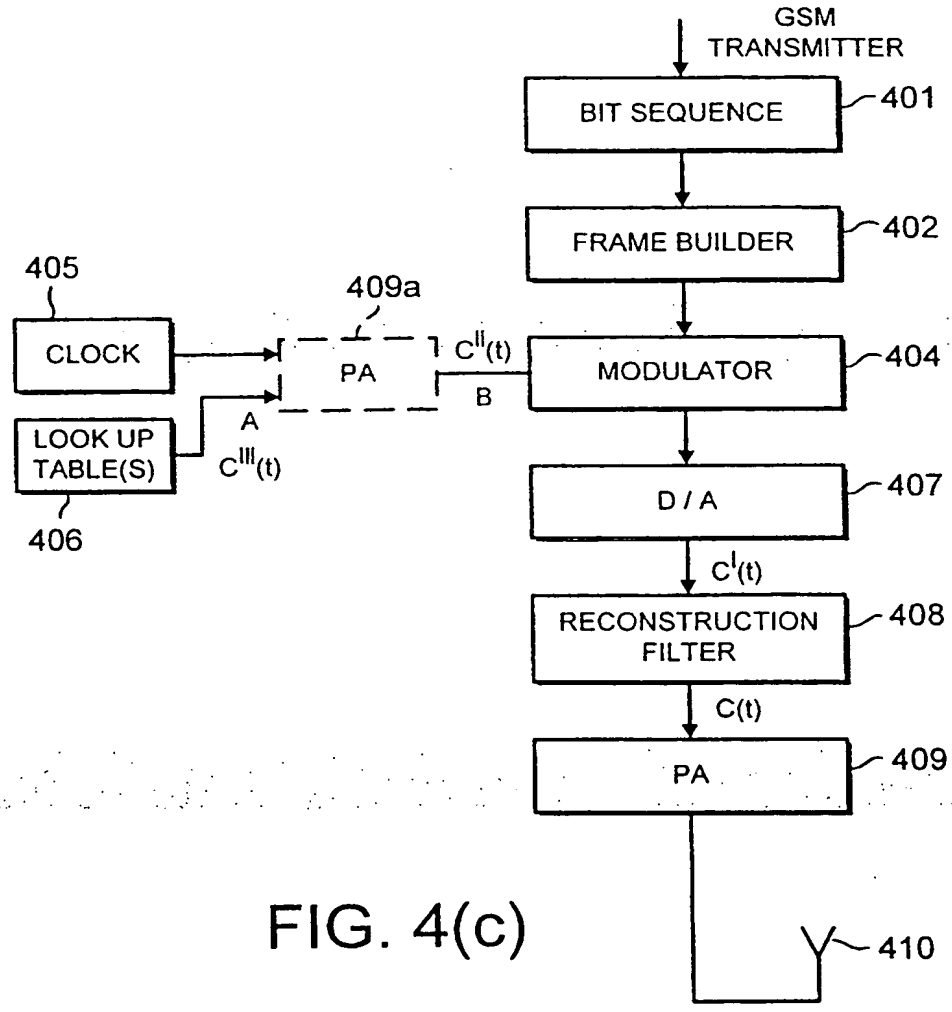

GSM TRANSMITTER
BIT SEQUENCE
401
FRAME BUILDER
402
405
409a
CLOCK
PA
$C^{II}(t)$
MODULATOR
404
B
A
LOOK UP TABLE(S)
$C^{III}(t)$
406
D / A
407
$C^{I}(t)$
RECONSTRUCTION FILTER
408
C(t)
PA
409
410

FIG. 4(c)

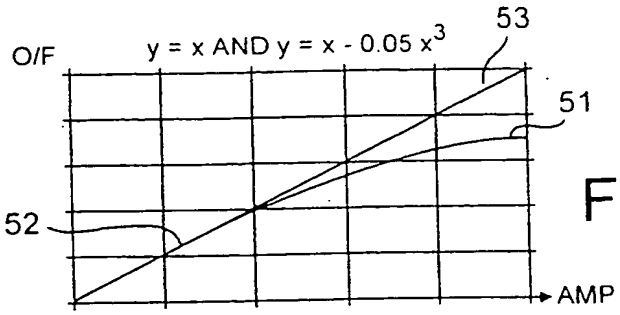


FIG. 5(a)

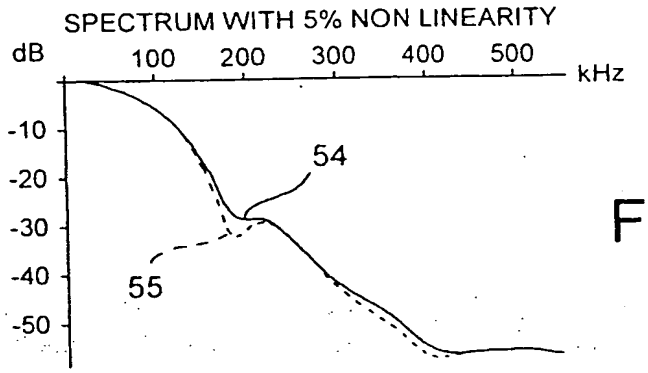


FIG. 5(b)

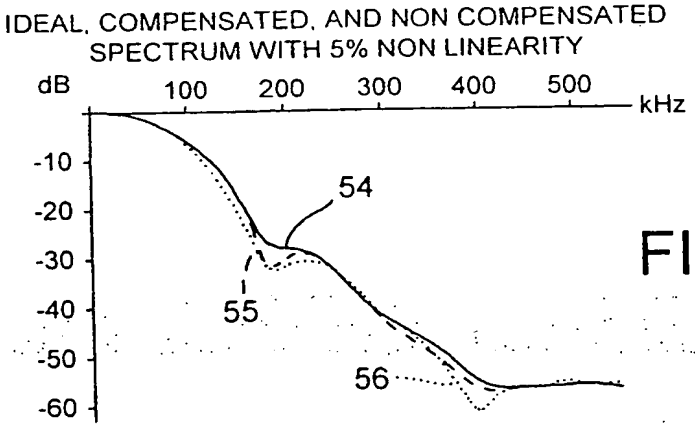


FIG. 5(c)

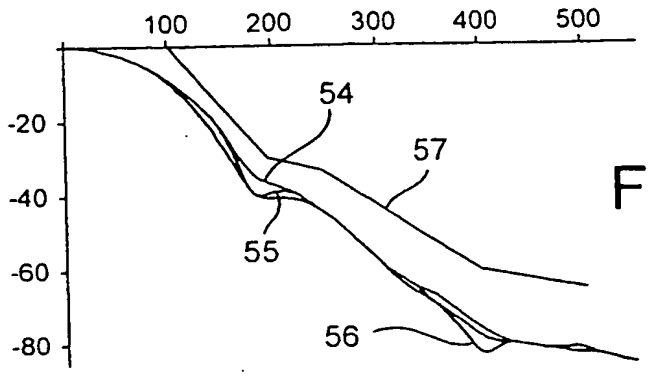


FIG. 5(d)

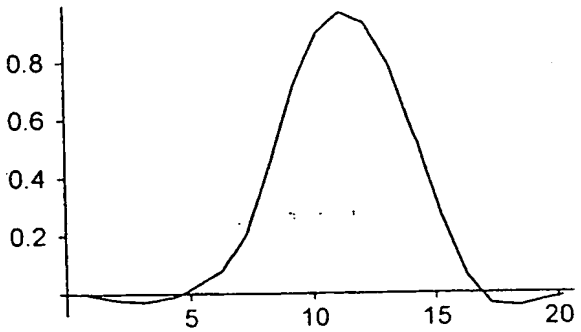


FIG.6(a)

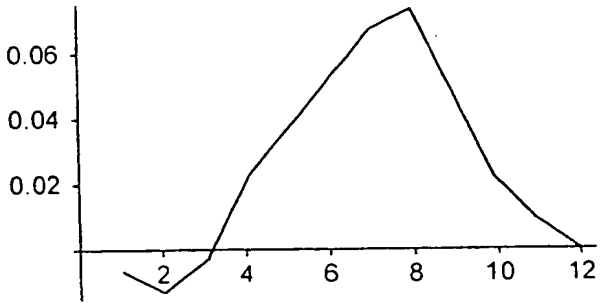


FIG.6(b)

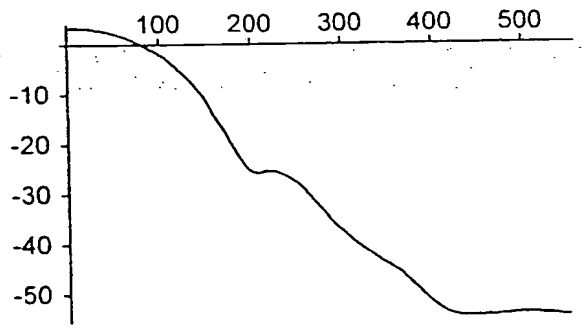


FIG.6(c)

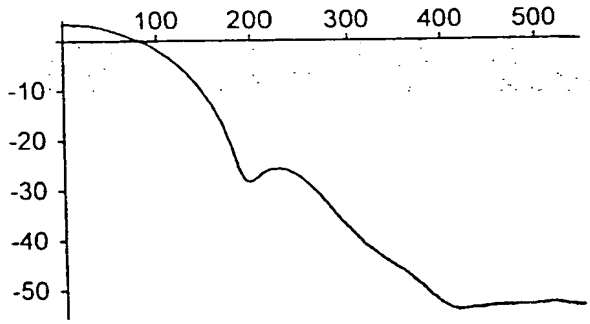


FIG.6(d)

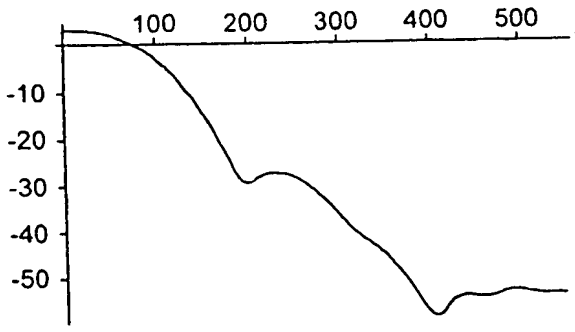


FIG.6(e)

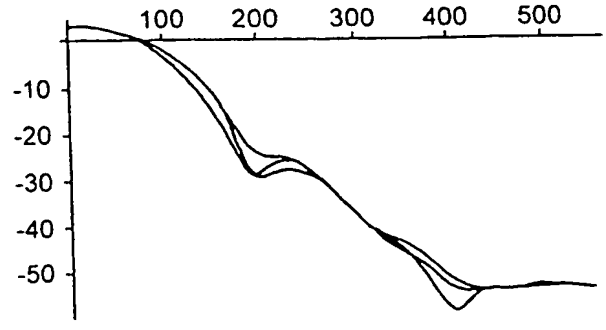


FIG.6(f)

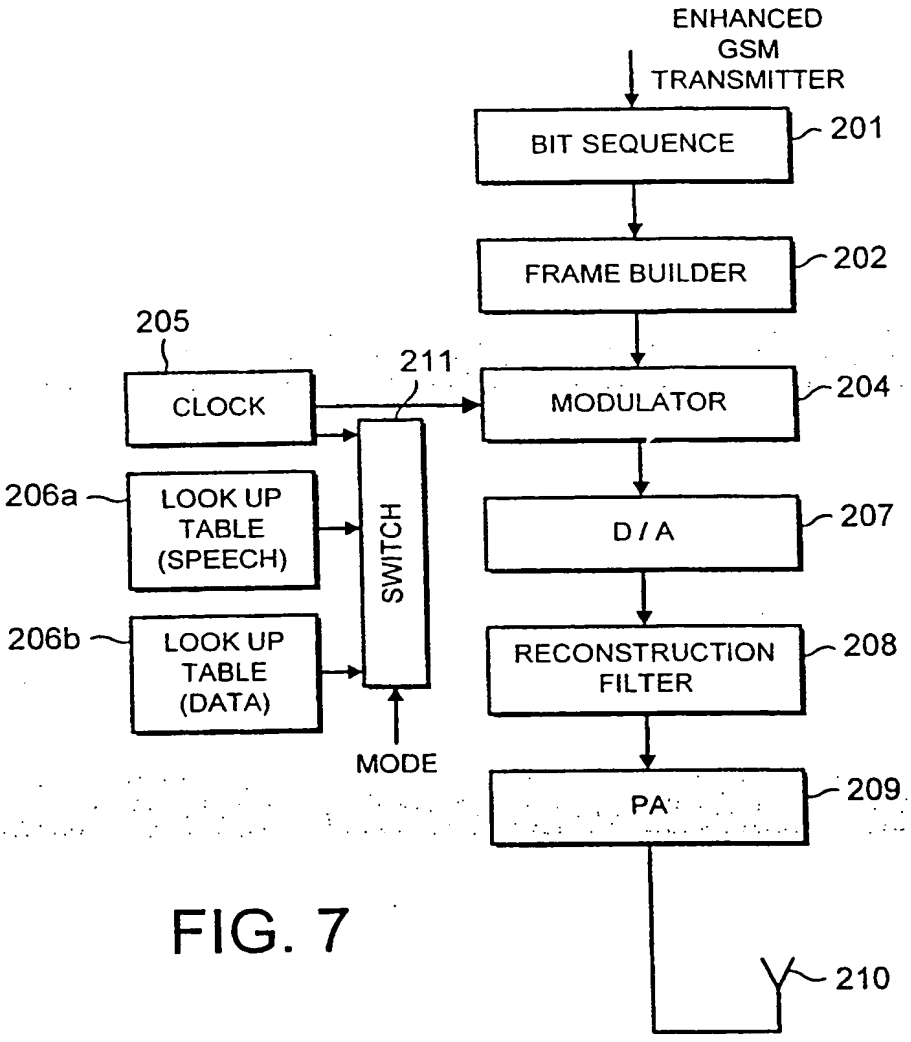

ENHANCED
GSM
TRANSMITTER
BIT SEQUENCE
201
FRAME BUILDER
202
205
CLOCK
211
MODULATOR
204
206a
LOOK UP
TABLE
(SPEECH)
SWITCH
D / A
207
206b
LOOK UP
TABLE
(DATA)
RECONSTRUCTION
FILTER
208
MODE
PA
209
210

FIG. 7

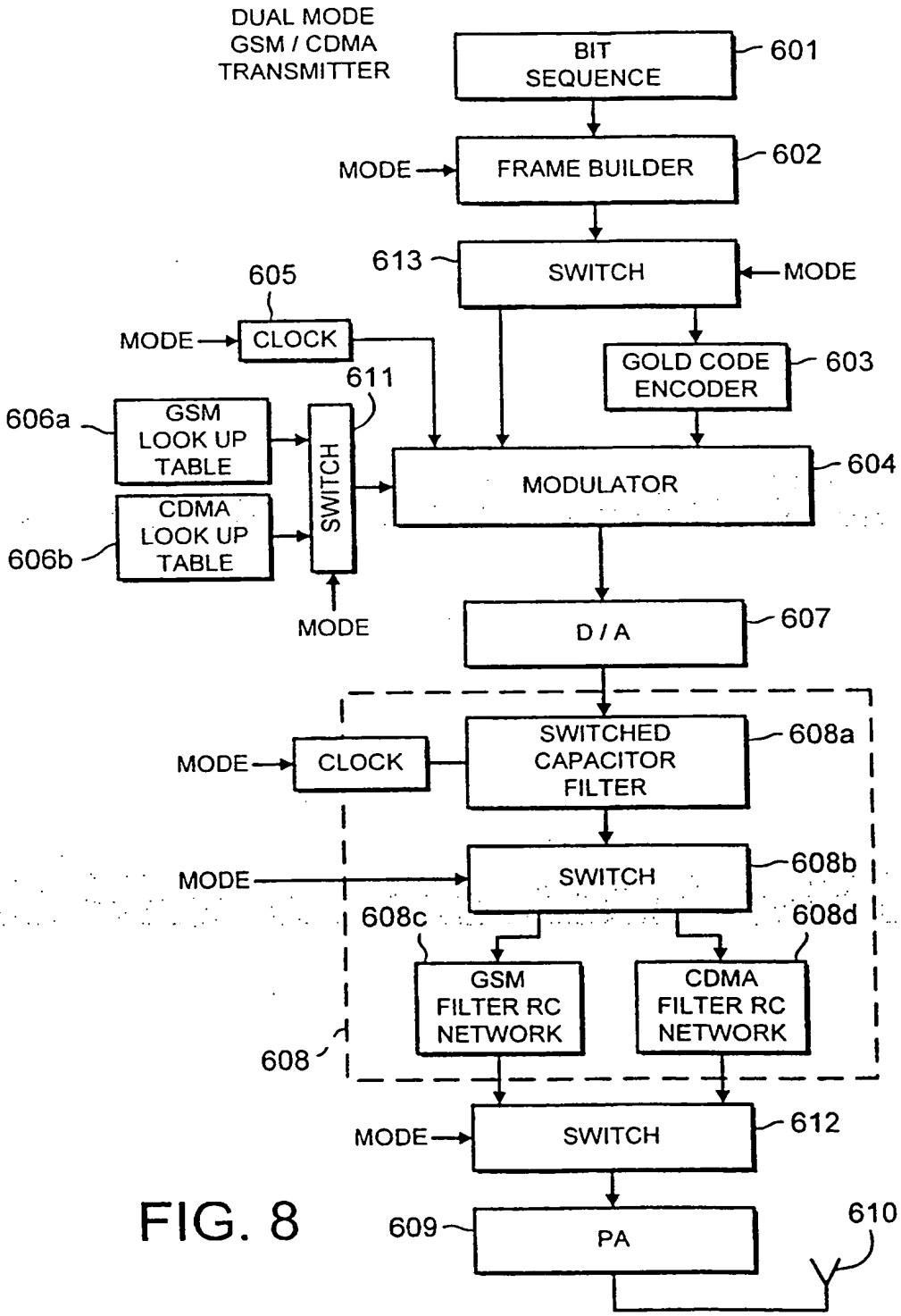

DUAL MODE
GSM / CDMA
TRANSMITTER
BIT
SEQUENCE
601
MODE
FRAME BUILDER
602
613
SWITCH
MODE
605
MODE
CLOCK
GOLD CODE
ENCODER
603
611
606a
GSM
LOOK UP
TABLE
SWITCH
MODULATOR
604
CDMA
LOOK UP
TABLE
606b
MODE
D / A
607
MODE
CLOCK
SWITCHED
CAPACITOR
FILTER
608a
MODE
SWITCH
608b
608c
608d
GSM
FILTER RC
NETWORK
CDMA
FILTER RC
NETWORK
608
MODE
SWITCH
612
609
PA
610

FIG. 8

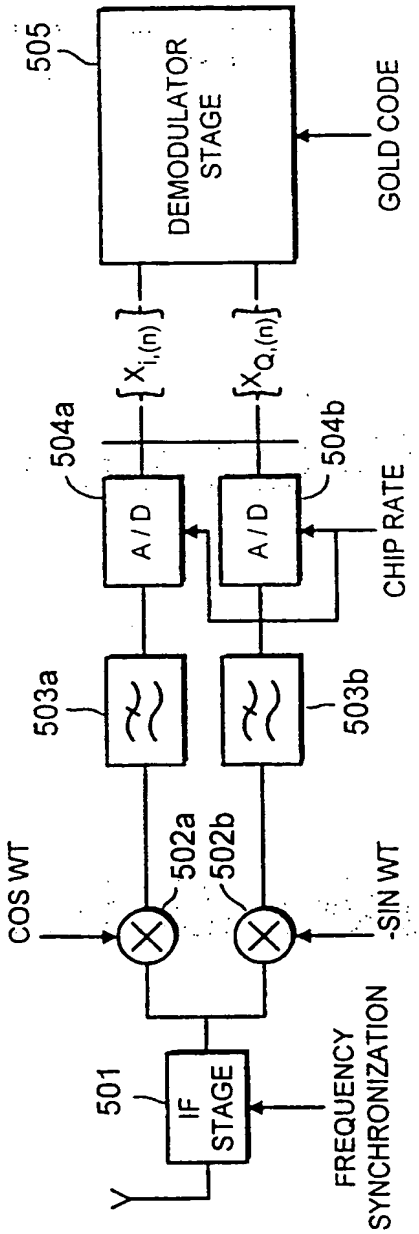

505
DEMODULATOR STAGE
GOLD CODE
$\{X_{I,(n)}\}$
$\{X_{Q,(n)}\}$
504a
504b
A / D
A / D
CHIP RATE
503a
503b
COS WT
502a
502b
-SIN WT
501
IF STAGE
FREQUENCY SYNCHRONIZATION
Y

FIG. 9

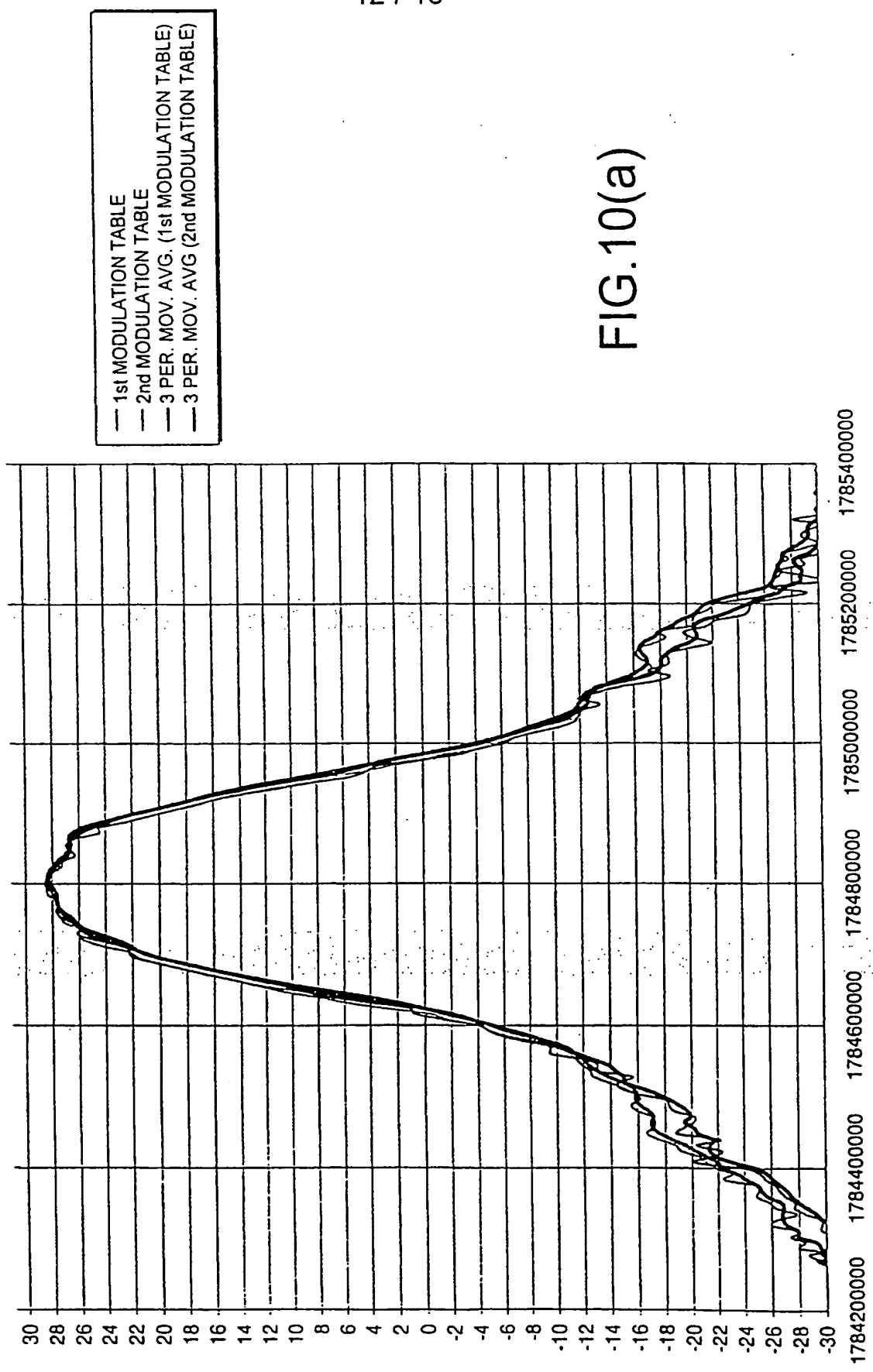
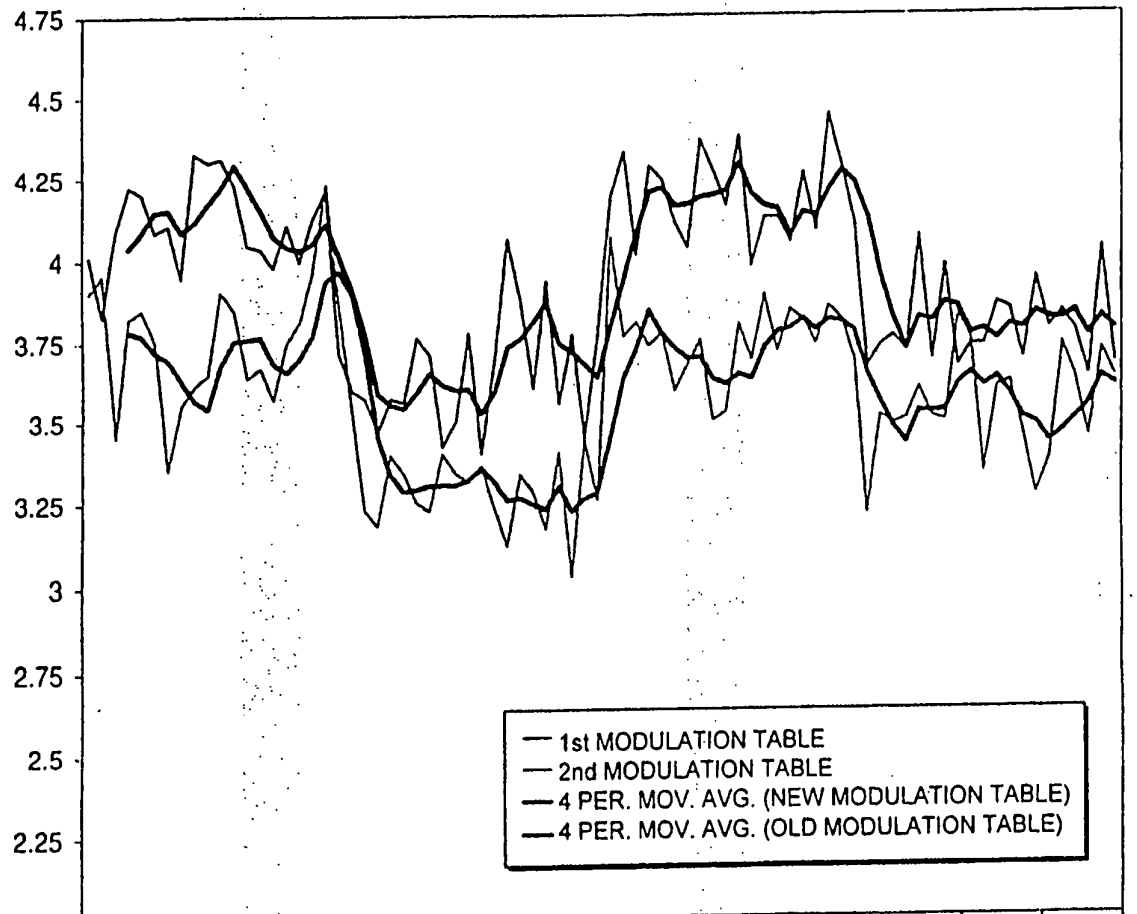

1st MODULATION TABLE
2nd MODULATION TABLE
3 PER. MOV. AVG. (1st MODULATION TABLE)
3 PER. MOV. AVG (2nd MODULATION TABLE)
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-28
-30
1784200000
1784400000
1784600000
1784800000
1785000000
1785200000
1785400000
Freq

FIG.10(a)



	1	7	13	19	26	32	38	44	50	56	63	69	75
1st MODULATION TABLE	4.01	4.102	4.043	4.213	3.763	3.691	3.768	4.285	4.164	4.263	3.763	3.735	3.785
2nd MODULATION TABLE	3.9	3.351	3.636	4.23	3.252	3.235	3.027	3.735	3.527	3.818	3.488	3.752	3.373

FIG.10(b)